REMARKS

Favorable reconsideration of this application in light of the following remarks is respectfully requested. Claims 1, 6, 25, 28, 29, and 31 are currently pending.

Applicants thank Examiner Maldonado and Examiner Fourson for the courtesy of a personal interview granted to Applicant's representative, Jonathan Hack, on September 9, 2005. During the interview, Applicants' representative presented arguments detailing how the cited reference does not disclose the recited claims. Examiner Maldonado indicated that he would reconsider the outstanding grounds for rejection upon formal submission of these remarks. Accordingly, Applicants now submit in this response the remarks previously presented to the Examiner during the interview.

In the Office Action dated June 14, 2005, claims 1, 6, 25, 28, 29, and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,201,579 to Robinson et al. The rejection is traversed for the following reasons.

The rejection of claims 1, 6, 25, 28, 29, and 31

In the Office Action claims 1, 6, 25, 28, 29, and 31 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Robinson et al. Applicants respectfully traverse this rejection.

The Office Action asserts that Robinson et al. teach the elements recited in claims 1, 6, 25, 28, 29, and 31 except for the element that the removal is conducted at an ambient temperature of 235 °C to 350 °C. The Office Action goes on to assert that one of ordinary skill in the art at the time the invention was made would have been led to the recited temperature range through routine experimentation.

Applicants respectfully disagree and assert that in addition to not teaching or suggesting the claimed temperature range, Robinson et al. do not teach, *inter alia*, a downstream plasma, as recited in independent claims 1, 25, and 29. Moreover, Robinson et al. do not teach or suggest passivation, as recited in independent claim 1 or an ambient temperature of 235 °C to 350 °C as recited claims 1, 25, and 29. Moreover, Applicants will show that as a matter of law, the claimed temperature range would not have been obvious to one of ordinary skill in the art at the time of the invention.

Robinson et al. do not teach using a downstream plasma

Independent claims 1, 25, and 29 recite removal using a downstream plasma process. In contrast, Robinson et al. disclose a plasma that *surrounds* the substrate. *See* Robinson et al. col. 4, lines 9-11. The claims of the application recite using a downstream plasma, which can be a plasma that is *remote* from the substrates. A plasma that surrounds a substrate is different from a downstream plasma process at least because the downstream plasma is remote from the substrate. A downstream plasma results in less surface damage than standard plasma processes.

Further, as already described in Applicants' Amendment dated October 6, 2000, it is well established that in a downstream plasma the particles which are incident on the surface of the wafer are neutral particles. *See* Amendment dated October 6, 2000, page 8, last two lines to page 9, line 1. A downstream plasma removal process uses excited electronic state neutral atoms or molecules incident on the surface to remove photoresist. *See* Amendment dated October 6, 2000, page 9, lines 1-6.

Therefore, Applicants respectfully submit that Robinson et al. do not disclose a downstream plasma as recited in claims 1, 25, and 29. Accordingly, Applicants respectfully submit that claims 1, 25, and 29 are in condition for allowance. Moreover, claim 6 depends from claim 1, claim 28 depends from claim 25, and claim 31 depends from claim 29 and thus are allowable for at least the same reason that claims 1, 25, and 29 are allowable, as well as for their additional recitations.

Robinson et al. do not teach passivating the exposed oxygen sensitive material

Independent claim 1 recites removing the photoresist layer after patterning the layer of the first material and simultaneously passivating the exposed oxygen sensitive material. Robinson et al., however, do not disclose or suggest passivation, let alone removing photoresist and simultaneously passivating.

Still further, claim 1 recites that the step of removing photoresist and simultaneously passivating is conducted at an ambient temperature of 235 to 350 °C, temperatures that are not taught or suggested by Robinson et al. The specification of the present invention discloses that passivation can occur in this temperature range. *See* the instant specification page 10 lines 9-13.

Therefore, Applicants respectfully submit that Robinson et al. do not disclose passivating an exposed oxygen sensitive material as recited in claim 1. Accordingly, Applicants respectfully submit that claim 1 is in condition for allowance. Moreover, claim 6 depends from claim 1 and thus is allowable for at least the same reason that claim 1 is allowable, as well as for its additional recitations.

Robinson et al. do not teach controlling an ambient temperature

Independent claims 1, 25, and 29 recite heating an ambient to a temperature of 235 °C to 350 °C. In contrast, Robinson et al. teach heating a substrate to a temperature from 100 °C to 225 °C. *See* Robinson col. 4, lines 2-4. Heating an ambient is not the same as heating a substrate.

Robinson et al. consider and distinguish heating the substrate from heating the ambient. Indeed, Robinson et al. teach first heating the substrates to a temperature of 100 °C to 225 °C and subsequently creating the plasma in the reaction chamber to surround the substrates. *See* Robinson et al. col. 4, lines 2-10. Robinson et al. refer to different devices to accomplish these separate tasks. Specifically, Robinson et al. use *a heater 30* to heat the substrate and use *a heater element* to heat the ambient in the plasma reaction chamber. Robinson et al. state, "[a] *heater 30* which has been shown as a simple resistance heater permits the *controlled heating of the substrates* within the chamber." *See* Robinson et al. col. 3, lines 38-41 (emphasis added).

In contrast to the term *heater 30* that heats the substrate, Robinson et al. use a separate term *heating element*, when discussing ambient heating. Specifically, Robinson et al. teach that the reactor has an ambient that can be controlled during the reaction. *See* col. 3, lines 27-29. Robinson et al. state, "It is important for the optimal practice of the invention that the plasma reactor have a *heater element* and also an internal RF electrode." *See* col. 3, lines 49-53. However, Robinson et al. only teach heating the ambient in the reaction chamber to 150 °C. *See* col. 5, lines 9-12. There is no discussion in Robinson et al. about how the temperature of the ambient affects, if at

all, the temperature of the substrate. Moreover, based on the teachings in Robinson et al., any speculation about how the temperature of the ambient affects the temperature of the substrate would be just that, speculation.

At best then, Robinson et al. teach heating a substrate to 100 °C to 225 °C and then heating the ambient to 150 °C. Therefore, Applicants respectfully submit that Robinson et al. do not disclose an ambient temperature of 235 to 350 °C as recited in claims 1, 25, and 29. Accordingly, Applicants respectfully submit that claims 1, 25, and 29 are in condition for allowance. Moreover, claims 6, 28, and 31 depend from claims 1, 25, and 29 and thus are allowable for at least the same reason that claims 1, 25, and 29 are allowable, as well as for their additional recitations.

It would not have been obvious for one of ordinary skill in the art to experiment at a temperature range that does not overlap the single temperature value taught in the related art in order to optimize a result that was not known in the related art but that was discovered by the applicants

Claim 1 recites, *inter alia*, "passivating said exposed oxygen sensitive material . . . at an ambient temperature of 235 °C to 350 °C." *See* claim 1, lines 9-11. In contrast, Robinson et al. teach heating the ambient to 150 °C. *See* Robinson et al. column 5, lines 9-12. Nowhere do Robinson et al. teach, suggest, or contemplate passivation.

The Office Action asserts, however, that "the same materials are treated the same way and therefore the same results would be obtained." *See* Office Action dated June 14, 2005 page 3, last two lines. Applicants respectfully disagree.

Assuming *arguendo* that the materials would be the same, the materials in Robinson et al. are treated differently than the materials in the recitation of claim 1.[1] In particular, Robinson et al. teach heating the ambient to 150 °C while claim 1 recites an ambient temperature of 235 °C to 350 °C. Still further, Robinson et al. give no reasoning for heating reactor to 150 °C. In the instant invention, however, it has been stated that among other things, heating the ambient temperature in the range of 235 °C to 350 °C passivates the exposed oxygen sensitive material.

The Office Action speculates that Robinson et al. had a reason for heating the material to 150 °C. The Office Action further speculates that Robinson et al.'s reason for heating the material was passivation. Both examples of the Office Action's speculation are impermissible. Robinson et al. give no reason for heating the material to 150 °C. Robinson et al. do not contemplate the material passivates at 150 °C. Robinson et al. nowhere mention passivation. Indeed, Robinson et al. do not reveal the property that Applicants have discovered (passivation), and the Examiner has provided no other basis for the obviousness of the claimed temperature range. *See* In re Antonie, 559 F.2d 618; *see also* In Re Yates, 663 F.2d 1054. Similar to Antonie, the claimed ambient temperature range has been shown to be, among other things, a result-effective variable. Specifically, the variable of the claimed ambient temperature range effects and achieves passivation, neither of which are recognized by Robinson et al. Accordingly, Applicants respectfully submit that claim 1 is in condition for allowance.

[1] It is unclear which material is referred to, but for argument's sake the referenced material is assumed to be the exposed oxygen sensitive material.

Moreover, claim 6 depends from claim 1 and thus is allowable for at least the same reason that claim 1 as well as for its additional recitations.

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to the Texas Instruments Deposit Account 20-0668.

Respectfully submitted,

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